

## Treatment Regimens for hetIL-15

### Summary (1024-character limit)

Researchers at the National Cancer Institute (NCI) developed a treatment regimens for cancer and HIV using heterodimeric IL-15 (hetIL-15). The regimens allow access to B cell follicles, germinal centers, and tumor sites that are difficult for drug entry. A combination therapy for HIV infection is also described using hetIL-15 and a conserved element vaccine. Researchers seek licensing and/or co-development research collaborations for development and commercialization of treatment regimens for HIV infection.

### NIH Reference Number

E-126-2016

### Product Type

- Therapeutics
- Vaccines

### Keywords

- HIV-1, Dosing Regimens, Germinal Centers, Conserved Elements (CE), Gag, heterodimeric IL-15 (hetIL-15), Vaccine, Vaccine Adjuvant, Cancer Therapy, Infectious Disease, Autoimmune Disease, Pavlakis

### Collaboration Opportunity

This invention is available for licensing and co-development.

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### Description of Technology

Interleukin-15 (IL-15) is a cytokine important for both innate and adaptive immune systems. IL-15 has potential for use in vaccines, cancer therapy, infectious disease, autoimmune disease, and as a vaccine adjuvant.

NCI inventors previously disclosed optimized sequences of heterodimeric IL-15 (hetIL-15), the IL-15 and IL-15 receptor alpha (IL-15Ra) heterodimer. Recently, specific methods, drug schedules and dosage of hetIL-15 have been identified, able to induce entry of lymphocytes into tumors and germinal centers which are classically difficult for drug entry. The regimens described have reduced toxicity and increased

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<https://techtransfer.cancer.gov/pdf/e-126-2016.pdf>

entry into germinal centers for HIV infection.

The NCI researchers have also studied a combination of hetIL-15 with a therapeutic HIV vaccine incorporating conserved elements of Gag. This combination effectively induces an immune response and maximizes the entry of immune cells into viral sanctuary sites such as germinal centers. This combination has potential for the treatment of HIV by effectively eliminating infected cells.

### Potential Commercial Applications

- Therapeutic regimens for the treatment of HIV or cancer
- Combination therapy for the treatment of HIV

### Competitive Advantages

- Allows lymphocytes to enter viral sanctuary sites such as germinal centers that are not well accessed by other HIV therapies

### Inventor(s)

[George Pavlakis \(NCI\)](#), [Barbara Felber \(NCI\)](#), [Antonin Valentin \(NCI\)](#)

### Development Stage

- Pre-clinical (in vivo)

### Publications

Pavlakis GN, et al. Heterodimeric IL-15 Induces Effector Cell Activation and Trafficking to the Germinal Centers of SIV Infected Macaques. [[Abstract Number OA4-1](#)]

### Patent Status

- **U.S. Provisional:** U.S. Provisional Patent Application Number 62/326,223 , Filed 14 Jul 2016

### Related Technologies

- E-254-2005
- E-257-2009
- E-141-2008
- E-103-2007
- E-054-2013
- E-070-2015

### Therapeutic Area

- Cancer/Neoplasm
- Immune System and Inflammation